

Electronic supplementary material

**“Fractal bird nest distribution produces scale-free colony
sizes”**

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Supporting Fig 1.pdf

Figure 1. White stork nest distribution at different scales for the year 2005

(complementing figure 1 of the main text). Tops of figures are oriented to the North.

The dashed line leaves at the west an area with nests mainly built on electric poles. The regular disposition of nests at intermediate and high resolution is due to the location of nests at the top of consecutive electric poles.

Supporting Fig 2.pdf

Figure 2. Diagram of a hypothetical box-counting analysis. Points denote nests. In a first step ($n = 1$), the map is divided into 4 squares of equal side length = x (thick line). In the second step ($n = 2$) side length is $x/2$ (thin line), and in following steps (not shown; $n = 3, 4, 5, \dots$) side length would have been $x/2^{n-1}$. The number of squares increases progressively as 4^n (i.e. 4, 16, 64) in successive steps. In the simulated example, in the first step two out of the four squares were occupied by nests, and in the second step seven out of 16 squares were used.

Supporting Fig 3.pdf

Figure 3. Comparison of figure 4 of the main text (white dots; without nests West to the dashed line in figure 1) with the same box-counting analysis applied to all the nests together (black dots). Different panels (*a-c*) correspond to data for the different study years in order from 2002 to 2005.

Supporting Fig 4.pdf

Figures 4. Same than figure caption from figure 3 of the main text but for year 2002.

Cluster size distributions followed a power law for all the cut-off distance used to define nest clusters (R^2 always > 0.99).

Supporting Fig 5.pdf

Figures 5. Same than figure caption from figure 3 of the main text but for year 2003.

Cluster size distributions followed a power law for all the cut-off distance used to define nest clusters (R^2 always > 0.99).

Supporting Fig 6.pdf

Figures 6. Same than figure caption from figure 3 of the main text but for year 2004.

Cluster size distributions followed a power law for all the cut-off distance used to define nest clusters (R^2 always > 0.99).

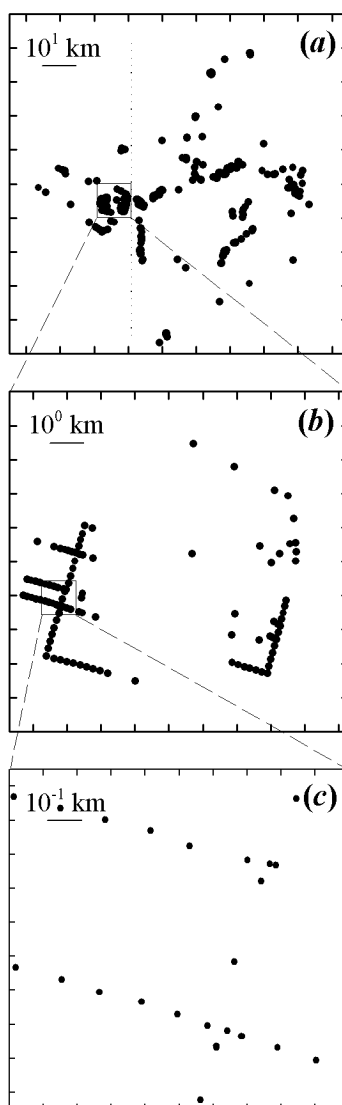
Supporting Fig 7.pdf

Figure 7. Frequency distribution of nearest neighbour distances (distance between a nest and its closest one). Different panels (*a-c*) correspond to data for the different study years in order from 2002 to 2005. The distribution followed a power law for each year (R^2 always > 0.99).

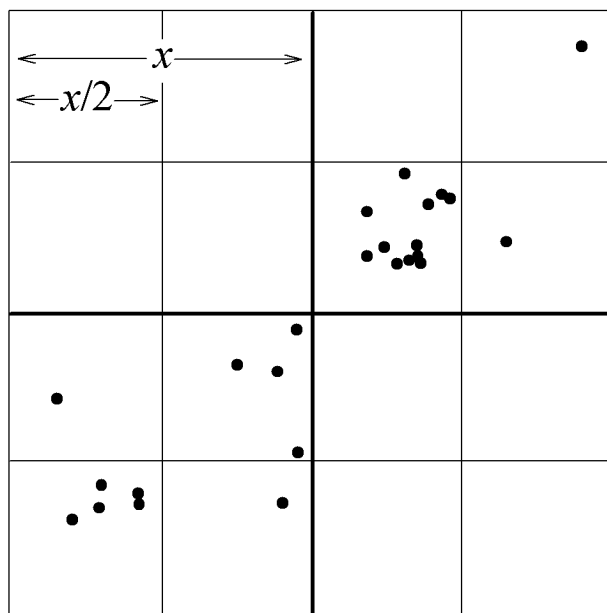
Supporting Fig 8.pdf

Figure 8. Power law frequency distribution of distances between each possible pair of nests in the study population (year 2005 is shown as an example). The scale-invariant pattern holds almost for five orders of magnitude ($R^2 = 1$, the largest distance point was not included in the fit).

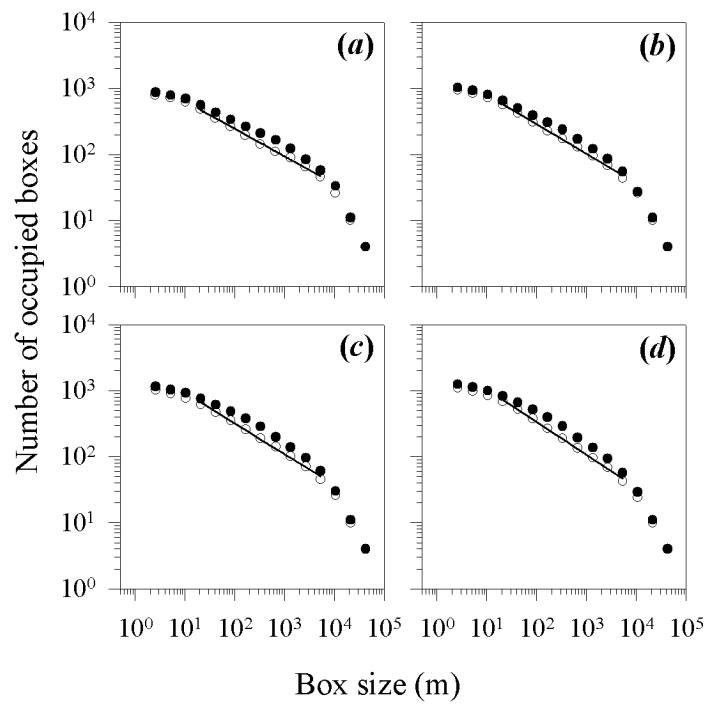
Electronic supplementary material
Figure 1 Jovani & Tella



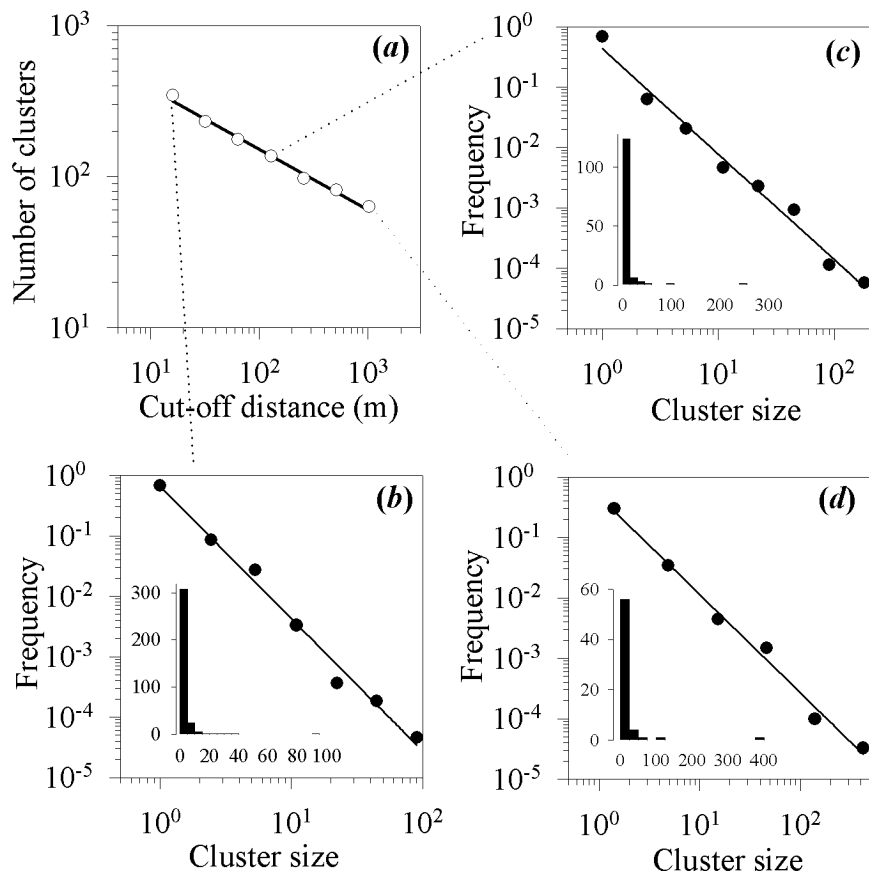
Electronic supplementary material
Figure 2 Jovani & Tella



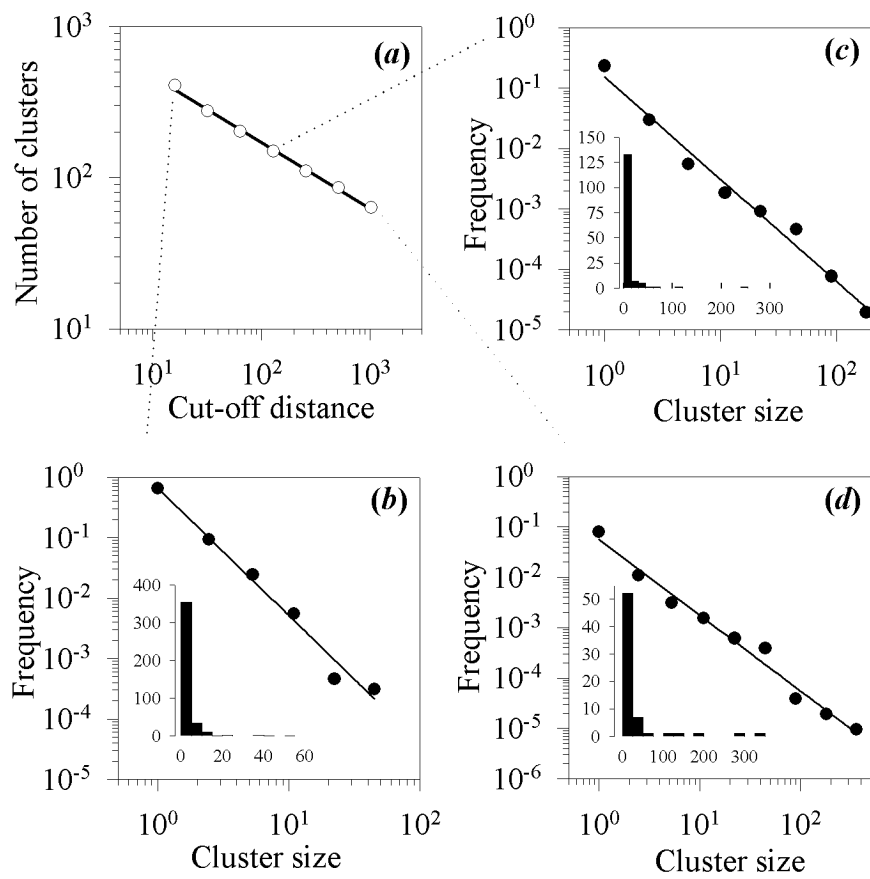
Electronic supplementary material
Figure 3 Jovani & Tella



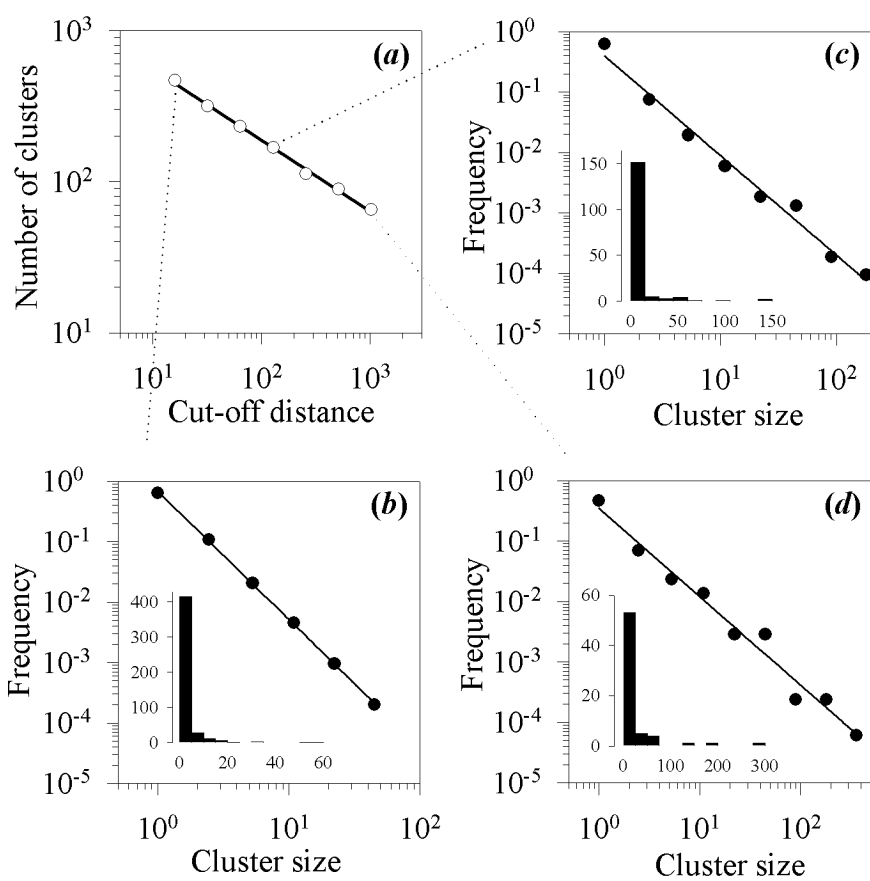
Electronic supplementary material
Figure 4 Jovani & Tella



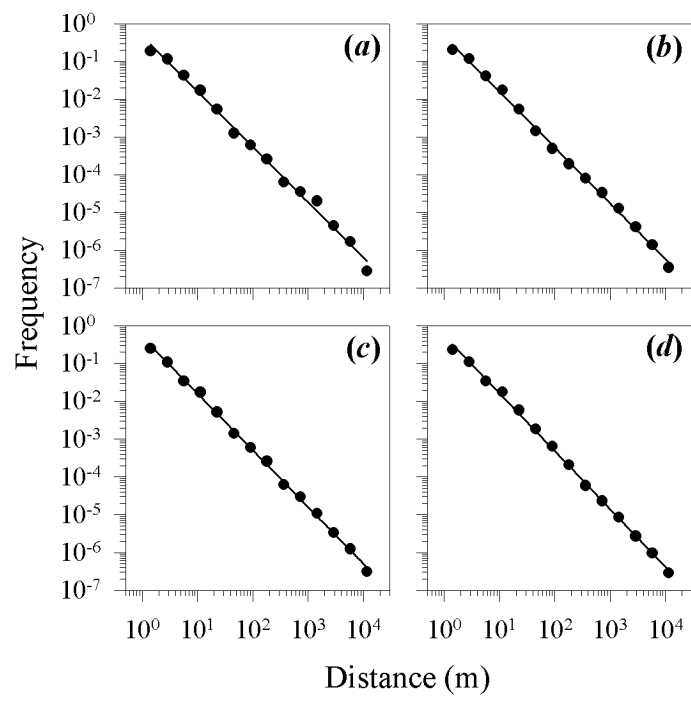
Electronic supplementary material
Figure 5 Jovani & Tella



Electronic supplementary material
Figure 6 Jovani & Tella



Electronic supplementary material
Figure 7 Jovani & Tella



Electronic supplementary material
Figure 8 Jovani & Tella

